WHAT IS CLAIMED IS:

1. A transgenic, non-human mammalian animal that expresses a heterologous, recombinant physiologically-functional fibrinogen holoprotein or individual subunits thereof and secretes said holoprotein or subunit into a body fluid of said animal.

2. An animal of claim 1, wherein said animal has stably integrated in its genome heterologous fibrinogen subunit chain-encoding DNA sequences comprising the Aα, Bß and Gγ DNA sequences encoding, respectively, a different subunit chain polypeptide of said fibrinogen, and wherein each of said heterologous DNA sequence is operably linked to a *cis*-acting, expression promoter-containing regulatory sequence.

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3. An animal of claim 2, wherein said promoter is a whey acid protein promoter.

4. An animal of claim 2, wherein said promoter is a casein promoter.

5. An animal of claim 2, wherein said promoter is a ß-lactoglobulin promoter.

6. An animal of claim 2, wherein said promoter is an α-lactalbumin promoter.

7. An animal of claim 1, wherein said fibrinogen is human fibrinogen.

8. An animal of claim 1, wherein said fibrinogen is non-human animal fibrinogen.

9. An animal of claim 1, wherein said fibrinogen protein comprises an individual fibrinogen subunit chain polypeptide selected from the group consisting of Aα, Bß and Gγ subunit chain polypeptides.

10. An animal of claim 9, wherein said animal has stably integrated into its genome a heterologous fibrinogen subunit chain-encoding DNA sequence selected from the group consisting of Aα, Bß and Gγ DNA sequences encoding, respectively, the three subunit chain polypeptides of said fibrinogen, and wherein each heterologous DNA sequence is operably linked to (i) a *cis*-acting, expression promoter-containing regulatory sequence and (ii) a sequence encoding a transmembrane secretory signal peptide for directing the secretion of said fibrinogen subunit into a body fluid of said animal

11. An animal of claim 1, wherein said animal is a rodent, rabbit, cat, dog, pig, sheep, goat, cow or horse.

12. An animal of claim 1, wherein said fibrinogen protein comprises a modified fibrinogen molecule.

13. An animal of claim 1, wherein said fibrinogen protein comprises a fusion protein with a non-fibrinogen protein.

14. An animal of claim 12, wherein said non-fibrinogen protein is a milk protein selected from the group consisting of whey acid protein, casein, α-lactalbumin and ß-lactoglobulin.

15. A process for producing a heterologous recombinant physiologically functional fibrinogen holoprotein, comprising the steps of:

(a) providing a transgenic, non-human animal within whose genome is stably integrated heterologous fibrinogen subunit chain-encoding DNA sequences comprising Aα, Bß and Gγ DNA sequences encoding, respectively, a different fibrinogen subunit chain polypeptide, and wherein each said heterologous DNA sequence further includes a *cis*-acting, expression promoter-containing regulatory sequence operably linked to said heterologous DNA sequence;

(b) collecting a body fluid of said animal; and

(c) isolating from said body fluid said expressed fibrinogen protein.

16. A process of claim 15, wherein said promoter is a whey acid protein promoter.

17. A process of claim 15, wherein said promoter is a casein promoter.

18. A process of claim 15, wherein said promoter is a β-lactoglobulin promoter.

19. A process of claim 15, wherein said promoter is an α-lactalbumin promoter.

20. A process of claim 15, wherein said fibrinogen protein is synthesized as a fusion protein with a non-fibrinogen protein.

21. A process of claim 20, wherein said non-fibrinogen protein is a milk protein selected from the group consisting of whey acid protein, casein, γ-lactalbumin and ß-lactoglobulin.

22. A process of claim 15, wherein said transgenic animal is a rodent, rabbit, cat, dog, pig, sheep, goat, cow or horse.

23. A process of claim 15, wherein said fibrinogen protein is human fibrinogen.

24. A process of claim 15, wherein said fibrinogen protein is rodent, rabbit, cat, dog, pig, sheep, goat, cow or horse fibrinogen protein.

25. A process of claim 15, wherein said body fluid is milk.

26. A process of claim 15, wherein said body fluid is blood or a fraction thereof.

27. A process of claim 15, wherein said body fluid is urine.

28. A process of claim 15, wherein said fibrinogen protein produced comprises a fibrinogen subunit chain polypeptide selected from the group consisting of Aα, Bß and Gγ subunit chain polypeptides, and said DNA sequence further comprises a secretory signal peptide-encoding DNA

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29. A process of claim 15, wherein said fibrinogen protein comprises a modified fibrinogen molecule.

30. A plasmid selected from the group consisting of plasmid pUCWAP4 (ATCC Accession No. _____), plasmid pUCWAP5 (ATCC Accession No. _____), plasmid pUCWAP5/FIB Aα (ATCC Accession No. _____), plasmid pUCWAP5/FIB Bß1 (ATCC Accession No. _____), and plasmid pUCWAP5/FIB Gγ1 (ATCC Accession No. _____).

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31. A prokaryotic cell transformed by a plasmid according to claim 30.

Add A1

Add B9

add C1